Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V Draft Permit: No. V-97-051
OLIN CHEMICALS AND CHLOR ALKALI, INC., DOE RUN PLANT
BRANDENBURG, KENTUCKY 40108-0547
November 18, 1997
Application E849
COMPLETED BY: JAMES A. NEAL, KUMAR POLE, & SREENIVAS KESARAJU

SOURCE DESCRIPTION:

Olin Chemicals and Chlor Alkali, Inc. is a synthetic organic chemical manufacturing industry (SOCMI) falling under SIC code Group 28. The primary operation at the Doe Run plant consists of the manufacturing of glycols, polyols, resins, urethane systems, flexible foams, adducts, and surfactants. The primary raw materials at the plant are ethylene and propylene oxides. The oxides are reacted with other compounds to produce the products listed. Chemical production is grouped into areas: Light Hydrocarbon (LHC), Polychemicals, Poly Solv®, Propylene Glycol, Ethylene/Propylene Oxides, Polymer Polyol, ADI/TDI Adducts, 2A1 Surfactants, Microelectronics, Urethane Systems, and Flexible Foam.

The plant also includes several support activities such as Utilities, Pilot Plant, Wastewater Treatment, Emergency Diesel Generators, Oxygen/Nitrogen Plant, Maintenance/Vehicle Garage, Quality Control/Assurance, and Research and Development Laboratories.

COMMENTS:

a. Type of control and efficiency:
Each production area has it own associated air pollution control equipment, such as primary and secondary condensers, wet scrubbers, or carbon adsorption. The primary control strategy for the plant is wet scrubbers. The LHC area uses 2 flares to control emissions.

b. Emission factors and their source:
A combination of AP-42 emission factors, material balance, site testing and vendor guarantees have been used to estimate emissions in the application.

c. Applicable Regulations:
(Note: Only specific regulations have been listed here, no generally applicable regulations are listed here)
Regulation 401 KAR 51:017 (40 CFR 52.21) applies to this major SOCMI source.
Regulation 401 KAR 61:015 applies to the particulate matter and sulfur dioxide emissions from the combustion of natural gas and secondary fuels at Boilers 1A, 2A, 3A (Emission Points 04,05, 06)
Regulation 401 KAR 59:015 applies to the particulate matter and sulfur dioxide emissions from the combustion of natural gas and residue gas at Package Boilers A and B (emission points 07, 08).

Regulation 401 KAR 59:485 (40 CFR 60 Subpart Kb) applies to several storage vessels in each respective production area (see permit for details).
Regulation 40 CFR 63 Subpart F applies to the ethylene oxide and propylene glycol manufacturing areas.
Regulation 40 CFR 63 Subpart G applies to the process vents for ethylene oxide and propylene glycol.
Regulation 401 KAR 59:010 applies to all the sources of non-combustion, process particulate emissions at the Doe Run plant.
Regulation 401 KAR 59:090, applies to new ethylene plants.
Regulation 401 KAR 63:010, applies to the fugitive emissions.
Regulation 401 KAR 63:015 applies to both the flares.
Regulation 401 KAR 63:070 (40 CFR 63 Subpart D) applies to plant-wide emissions of hazardous air pollutants (HAPs).
Regulation 401 KAR 57:040 (40 CFR 61 Subpart J) applies to the pipeline equipment in the LHC Area.
Regulation 401 KAR 57:035 (40 CFR 61 Subpart V) applies (by reference) to the pipeline equipment in the LHC Area.

d. Anything unusual about the:

(1) Emission point number and description

Areas that currently use steam jets as control equipment will continue to monitor the vacuum, as is current policy, or until a MACT requirement changes or modifies the control equipment or monitoring methods.

(2) Regulations that are not applicable

Many of the NSPS facilities (distillation columns, reactors, storage vessels) are exempt from the corresponding NSPS standards. For specific reasons of exemption, please see the permit. Please refer to the permit for state and federal regulations that do not apply to each respective boiler.

(3) Future MACT standards

This source will comply with compliance dates for any future and current proposed MACT Standards: Polyether Polyols, Miscellaneous Organic NESHAPS (MON), etc.

e. If the sources has proposed any of the following, write a brief description:

Emission and Operating Caps description:

i. Early Reductions Emission Cap:
NA

ii. Synthetic Minors:
Please refer to the permit for emissions units for which Olin has received synthetic minor permits

f. Operational Flexibility:
NA